

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

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| Applicant's or agent's file reference 069547.0367 | FOR FURTHER ACTION | See item 4 below |
| International application No. PCT/US2006/030636 | International filing date (<i>day/month/year</i>) 04 August 2006 (04.08.2006) | Priority date (<i>day/month/year</i>) 04 August 2005 (04.08.2005) |
| International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237 | | |
| Applicant ESPEED, INC. | | |

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|-------------------------------------|--|---|-----------|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| 1. | This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a). | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | This REPORT consists of a total of 5 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | <p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> | <input checked="" type="checkbox"/> | Box No. I | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. II | Priority | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VI | Certain documents cited | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | The International Bureau will communicate this report to designated Offices in accordance with Rules 44 <i>bis</i> .3(c) and 93 <i>bis</i> .1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44 <i>bis</i> .2). | | | | | | | | | | | | | | | | | | | | | | | | |

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| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland | Date of issuance of this report 05 February 2008 (05.02.2008) |
| Facsimile No. +41 22 338 82 70 | Authorized officer <div style="text-align: center; font-weight: bold;">Nora Lindner</div> |
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Samir A. Bhavsar
Baker Botts LLP
2001 Ross Avenue
Dallas, Texas 75201

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

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| Applicant's or agent's file reference 069547.0367 | | Date of mailing (day/month/year) 30 APR 2007 | |
| International application No. PCT/US 06/30636 | | FOR FURTHER ACTION See paragraph 2 below | |
| International filing date (day/month/year) 04 August 2006 (04.08.2006) | Priority date (day/month/year) 04 August 2005 (04.08.2005) | | |
| International Patent Classification (IPC) or both national classification and IPC IPC(8) - G06Q 40/00 (2007.01) USPC - 705/37 | | | |
| Applicant ESPEED, INC. | | | |

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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| Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201 | Date of completion of this opinion 27 February 2007 (27.02.2007) | Authorized officer: Lee W. Young <small>PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</small> |
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 06/30636

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

- a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

- b. format of material

- ☐ on paper
☐ in electronic form

- c. time of filing/furnishing

- ☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 06/30636

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|--|-----|
| Novelty (N) | Claims | 5, 9, 15, 19, 25, 29 | YES |
| | Claims | 1-4, 6-8, 10-14, 16-18, 20-24, 26-28, 30 | NO |
| Inventive step (IS) | Claims | none | YES |
| | Claims | 1-30 | NO |
| Industrial applicability (IA) | Claims | 1-30 | YES |
| | Claims | none | NO |

2. Citations and explanations:

Claims 1-4, 6-8, 10-14, 16-18, 20-24, 26-28, and 30 lack novelty under PCT Article 33(2) as being anticipated by US 2004/0143538 A1 to Kornhammer et al. (hereinafter 'Kornhammer').

As per claims 1, 11 and 21, Kornhammer discloses an apparatus, a method and a platform for processing trading orders, comprising a memory operable to store: a first order associated with a product comprising a displayed quantity and a reserved quantity (an order for a first financial instrument of the plurality of financial instruments is received from a first user, the order includes a first price per unit component, and a first unit quantity, the first unit quantity includes a disclosed liquidity quantity and an undisclosed liquidity quantity, see para [0016]); and a second order associated with the product and comprising a displayed quantity and a reserved quantity (a first sub-order, including the first price per unit component and the disclosed liquidity quantity and not including the undisclosed liquidity quantity, is sent to a first one of the plurality of trade execution entities for execution, see para [0031]); a processor coupled to the memory and operable to: receive a counterorder associated with the product (a reciprocal order for the first financial instrument, see para [0017]); facilitate filling the displayed quantity of the first order with a corresponding portion of the counterorder; facilitate filling the displayed quantity of the second order with a corresponding portion of the counterorder (as a function of (1) the price per unit value and the disclosed liquidity quantity for the first financial instrument in the updated order book information, and (2) the first price per unit component and the first undisclosed liquidity quantity, the reciprocal order is sent to one of the plurality of trade execution entities, see para [0018]); and allocate a first additional portion of the counterorder to the first order, the first additional portion of the counterorder to the first order, the first additional portion based at least in part on a ration of the displayed quantity of the first order to a sum of the displayed quantity of the first order and the displayed quantity of the second order (if the target one of the trade execution entities is the first one of the trade execution entities, the method sends a second sub-order, including the first price per unit component and a second disclosed liquidity quantity equal to at least a portion of the undisclosed liquidity quantity to the target one of the trade execution entities; and then sends the reciprocal order to the target one of the trade execution entities, see para [0031]).

As per claims 2, 12 and 22, Kornhammer further discloses wherein the processor is further operable to allocate a second additional portion of the counterorder to the second order, the second additional portion based at least in part on a ration of the displayed quantity of the second order to the sum of the displayed quantity of the first order and the displayed quantity of the second order (the method sends a second sub-order, including the first price per unit component and a second disclosed liquidity quantity equal to at least a portion of the undisclosed liquidity quantity to the target one of the trade execution entities; and then sends the reciprocal order to the target one of the trade execution entities, see para [0031]).

As per claims 3, 13 and 23, Kornhammer further discloses wherein the first and second orders comprise buy orders (buy order (or bid), see para [0053]) and the counterorder comprises a sell order (initiated a reciprocal (i.e., opposing), see para [0071] and claim 3).

As per claims 4, 14 and 24, Kornhammer further discloses wherein the first and second orders comprise sell orders (an ECN sell order, see para [0071]) and the counterorder comprises a buy order (initiated a reciprocal (i.e., opposing), see para [0071] and claim 3).

As per claims 6, 16 and 26, Kornhammer further discloses wherein the memory is further operable to store a third order (three orders have been placed, see para [0094]) associated with the product and comprising a displayed quantity and a reserved quantity; and the processor is further operable to facilitate filling the displayed quantity of the third order prior to allocating the first additional portion of the counterorder (Fig. 3).

As per claims 7, 17 and 27, Kornhammer further discloses wherein the third order is received prior to the counterorder (The order server is configured to receive, from one or more users, orders for one or more of a plurality of financial instruments, at least some of the orders including a disclosed liquidity value and an undisclosed liquidity value, see para [0029]-[0030]).

As per claims 8, 18 and 28, Kornhammer further discloses wherein the processor determines whether any portion of the counterorder remains unfilled after the displayed quantities of the first order, second order, and the third order are filled (it will then assess whether there is enough stock at the 24.05. level to fill the order, see para [0060]); and the processor allocates the first additional portion of the counterorder to the first order only if some portion of the counterorder remains unfilled after the displayed quantities of the first order, the second order, and the third order are filled (make this information available to reciprocal orders from other of its user/traders. This permits orders to hit or take as large a size as is possible, in essence disregarding the displayed size, see para [0072]).

-- CONTINUED IN SUPPLEMENTAL BOX --

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 06/30636

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

v. 2 Citations and explanations

As per claims 10, 20 and 30, Kornhammer further discloses wherein the processor is further operable to determine whether any remaining portion of the counter order exists prior to allocating the first additional portion (the system considers undisclosed liquidity which is being maintained in CCS 100 when routing a reciprocal order that can access multiple trade execution entities, see para [0091])

Claims 5, 9, 15, 19, 25 and 29 lack an inventive step under PCT Article 33(3) as being obvious over Kornhammer.

As per claims 5, 15 and 25, Kornhammer discloses an apparatus as provided above with respect to claims 1, 11, 21 for apportioning trading ordering orders based on size of displayed quantities. Kornhammer, however, does not specifically disclose wherein the displayed quantity of the first order and the displayed quantity of the second order are filled in the same sequence that the first order and the second order were received. It would have been obvious to one of ordinary skill in the art that the orders are filled in the sequence they are received because first in first out is a common choice in determining the execution of orders. Further, using such a methodology with the method in Kornhammer would enhance its functionality.

As per claims 9, 19 and 29, Kornhammer further discloses the processor is operable to allocate a second additional portion of the counterorder to the first order (the method sends a second sub-order, including the first price per unit component and a second disclosed liquidity quantity equal to at least a portion of the undisclosed liquidity quantity to the target one of the trade execution entities; and then sends the reciprocal order to the target one of the trade execution entities, see para [0031]). Kornhammer, however, does not specifically disclose the first order received at a first time and the second order received at a second time and using the difference between the first and second time to allocate a portion of the counterorder. It would have been obvious to one of ordinary skill in the art to ensure that the orders are received at different times because orders commonly happen sequentially and it would have been obvious that the difference in time would impact the allocated portion as the information about the orders change over time. Incorporating the use of the difference in time between a first order and second order with the method in Kornhammer would make the Kornhammer method more useful in real world situations and thereby enhances its overall appeal.

Claims 1-30 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.